

- 1 -

## SEQUENCE LISTING

&lt;110&gt; Wang, Hwa-Chain R.

<120> ANTIBODY COMPOSITIONS SPECIFIC FOR p33QIK AND p63KRS1  
POLYPEPTIDES AND USES THEREOF

&lt;130&gt; 4350.000800

&lt;140&gt; Unknown

&lt;141&gt; 2001-03-30

&lt;150&gt; 60/193,550

&lt;151&gt; 2000-03-31

&lt;160&gt; 76

&lt;170&gt; PatentIn Ver. 2.1

&lt;210&gt; 1

&lt;211&gt; 1476

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 1

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&lt;210&gt; 2

&lt;211&gt; 491

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

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&lt;400&gt; 2

Met Glu Gln Pro Pro Ala Pro Lys Ser Lys Leu Lys Lys Leu Ser Glu  
1 5 10 15

Asp Ser Leu Thr Lys Gln Pro Glu Glu Val Phe Asp Val Leu Glu Lys  
20 25 30

Leu Gly Glu Gly Ser Tyr Gly Ser Val Phe Lys Ala Ile His Lys Glu  
35 40 45

Ser Gly Gln Val Val Ala Ile Lys Gln Val Pro Val Glu Ser Asp Leu  
50 55 60

Gln Glu Ile Ile Lys Glu Ile Ser Ile Met Gln Gln Cys Asp Ser Pro  
65 70 75 80

Tyr Val Val Lys Tyr Tyr Gly Ser Tyr Phe Lys Asn Thr Asp Leu Trp  
85 90 95

Ile Val Met Glu Tyr Cys Gly Ala Gly Ser Val Ser Asp Ile Ile Arg  
100 105 110

Leu Arg Asn Lys Thr Leu Ile Glu Asp Glu Ile Ala Thr Ile Leu Lys  
115 120 125

Ser Thr Leu Lys Gly Leu Glu Tyr Leu His Phe Met Arg Lys Ile His  
130 135 140

Arg Asp Ile Lys Ala Gly Asn Ile Leu Leu Asn Thr Glu Gly His Ala  
145 150 155 160

Lys Leu Ala Asp Phe Gly Val Ala Gly Gln Leu Thr Asp Thr Met Ala  
165 170 175

Lys Arg Asn Thr Val Ile Gly Thr Pro Phe Trp Met Ala Pro Glu Val  
180 185 190

Ile Gln Glu Ile Gly Tyr Asn Cys Val Ala Asp Ile Trp Ser Leu Gly  
195 200 205

Ile Thr Ser Ile Glu Met Ala Glu Gly Lys Pro Pro Tyr Ala Asp Ile  
210 215 220

His Pro Met Arg Ala Ile Phe Met Ile Pro Thr Asn Pro Pro Pro Thr  
225 230 235 240

Phe Arg Lys Pro Glu Leu Trp Ser Asp Asp Phe Thr Asp Phe Val Lys  
245 250 255

Lys Cys Leu Val Lys Asn Pro Glu Gln Arg Ala Thr Ala Thr Gln Leu  
260 265 270

Leu Gln His Pro Phe Ile Lys Asn Ala Lys Pro Val Ser Ile Leu Arg

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290	295	300
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305	310	315 320
Leu Asp Ser His Thr Met Val Lys Thr Ser Val Gly Glu Cys Gly Thr		
	325	330 335
Met Arg Ala Thr Ser Thr Met Ser Glu Gly Ala Gln Thr Met Ile Glu		
	340	345 350
His Asn Ser Thr Met Leu Glu Ser Asp Leu Gly Thr Met Val Ile Asn		
	355	360 365
Ser Glu Asp Glu Glu Glu Glu Asp Gly Thr Met Lys Arg Asn Ala Thr		
	370	375 380
Ser Pro Gln Val Gln Arg Pro Ser Phe Met Asp Tyr Phe Asp Lys Gln		
385	390	395 400
Asp Phe Lys Asn Lys Ser His Glu Asn Cys Asn Gln Asn Met His Glu		
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Pro Phe Pro Met Ser Lys Asn Val Phe Pro Asp Asn Trp Lys Val Pro		
	420	425 430
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Gln Met Arg Leu Lys Ala Leu Asp Pro Met Met Glu Arg Glu Ile Glu		
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<210> 3

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 3

Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu
1 5 10 15

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<210> 4  
<211> 14  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 4  
Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His Thr  
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<210> 5  
<211> 50  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 5  
Pro Phe Ile Lys Asn Ala Lys Pro Val Ser Ile Leu Arg Asp Leu Ile  
1 5 10 15

Thr Glu Ala Met Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg  
20 25 30

Glu Leu Glu Glu Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser  
35 40 45

His Thr  
50

<210> 6  
<211> 49  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 6  
Phe Ile Lys Asn Ala Lys Pro Val Ser Ile Leu Arg Asp Leu Ile Thr  
1 5 10 15

Glu Ala Met Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu  
20 25 30

Leu Glu Glu Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His  
35 40 45

Thr

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<210> 7  
<211> 48  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 7  
Ile Lys Asn Ala Lys Pro Val Ser Ile Leu Arg Asp Leu Ile Thr Glu  
1 5 10 15  
Ala Met Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu  
20 25 30  
Glu Glu Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His Thr  
35 40 45

<210> 8  
<211> 47  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 8  
Lys Asn Ala Lys Pro Val Ser Ile Leu Arg Asp Leu Ile Thr Glu Ala  
1 5 10 15  
Met Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu  
20 25 30  
Glu Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His Thr  
35 40 45

<210> 9  
<211> 46  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 9  
Asn Ala Lys Pro Val Ser Ile Leu Arg Asp Leu Ile Thr Glu Ala Met  
1 5 10 15  
Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu

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<210> 10  
<211> 45  
<212> PRT  
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<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400>	10														
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Ile	Lys	Ala	Lys	Arg	His	Asp	Glu	Gln	Gln	Arg	Glu	Leu	Glu	Glu	Glu
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Glu	Glu	Asn	Ser	Asp	Glu	Asp	Glu	Leu	Asp	Ser	His	Thr
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<210> 11  
<211> 44  
<212> PRT  
<213> Artificial Sequence

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<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400>	11														
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Lys	Ala	Lys	Arg	His	Asp	Glu	Gln	Gln	Arg	Glu	Leu	Glu	Glu	Glu	Glu
		20						25					30		

Glu	Asn	Ser	Asp	Glu	Asp	Glu	Leu	Asp	Ser	His	Thr
		35					40				

<210> 12  
<211> 43  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400>	12														
Pro	Val	Ser	Ile	Leu	Arg	Asp	Leu	Ile	Thr	Glu	Ala	Met	Glu	Ile	Lys
	1				5				10				15		

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Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu Glu Glu Glu  
20 25 30

Asn Ser Asp Glu Asp Glu Leu Asp Ser His Thr  
35 40

<210> 13  
<211> 42  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 13  
Val Ser Ile Leu Arg Asp Leu Ile Thr Glu Ala Met Glu Ile Lys Ala  
1 5 10 15

Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu Glu Glu Glu Asn  
20 25 30

Ser Asp Glu Asp Glu Leu Asp Ser His Thr  
35 40

<210> 14  
<211> 41  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 14  
Ser Ile Leu Arg Asp Leu Ile Thr Glu Ala Met Glu Ile Lys Ala Lys  
1 5 10 15

Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu Glu Glu Glu Asn Ser  
20 25 30

Asp Glu Asp Glu Leu Asp Ser His Thr  
35 40

<210> 15  
<211> 40  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 15

- 8 -

Ile Leu Arg Asp Leu Ile Thr Glu Ala Met Glu Ile Lys Ala Lys Arg  
1 5 10 15

His Asp Glu Gln Gln Arg Glu Leu Glu Glu Glu Glu Asn Ser Asp  
20 25 30

Glu Asp Glu Leu Asp Ser His Thr  
35 40

<210> 16  
<211> 39  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 16  
Leu Arg Asp Leu Ile Thr Glu Ala Met Glu Ile Lys Ala Lys Arg His  
1 5 10 15

Asp Glu Gln Gln Arg Glu Leu Glu Glu Glu Glu Asn Ser Asp Glu  
20 25 30

Asp Glu Leu Asp Ser His Thr  
35

<210> 17  
<211> 38  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 17  
Arg Asp Leu Ile Thr Glu Ala Met Glu Ile Lys Ala Lys Arg His Asp  
1 5 10 15

Glu Gln Gln Arg Glu Leu Glu Glu Glu Glu Asn Ser Asp Glu Asp  
20 25 30

Glu Leu Asp Ser His Thr  
35

<210> 18  
<211> 37  
<212> PRT  
<213> Artificial Sequence

<220>



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<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 18

Asp Leu Ile Thr Glu Ala Met Glu Ile Lys Ala Lys Arg His Asp Glu  
1 5 10 15

Gln Gln Arg Glu Leu Glu Glu Glu Glu Asn Ser Asp Glu Asp Glu  
20 25 30

Leu Asp Ser His Thr  
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<210> 19

<211> 36

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 19

Leu Ile Thr Glu Ala Met Glu Ile Lys Ala Lys Arg His Asp Glu Gln  
1 5 10 15

Gln Arg Glu Leu Glu Glu Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu  
20 25 30

Asp Ser His Thr  
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<210> 20

<211> 35

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 20

Ile Thr Glu Ala Met Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln  
1 5 10 15

Arg Glu Leu Glu Glu Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp  
20 25 30

Ser His Thr  
35

<210> 21

<211> 34

<212> PRT

<213> Artificial Sequence

- 10 -

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 21

Thr Glu Ala Met Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg  
1 5 10 15

Glu Leu Glu Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser  
20 25 30

His Thr

<210> 22

<211> 33

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 22

Glu Ala Met Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu  
1 5 10 15

Leu Glu Glu Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His  
20 25 30

Thr

<210> 23

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 23

Ala Met Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu  
1 5 10 15

Glu Glu Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His Thr  
20 25 30

<210> 24

<211> 31

<212> PRT

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<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 24

Met Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu  
1 5 10 15

Glu Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His Thr  
20 25 30

<210> 25

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 25

Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu  
1 5 10 15

Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His  
20 25

<210> 26

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 26

Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu  
1 5 10 15

Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser  
20 25

<210> 27

<211> 27

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 27

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Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu  
1 5 10 15

Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp  
20 25

<210> 28

<211> 26

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 28

Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu  
1 5 10 15

Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu  
20 25

<210> 29

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 29

Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu  
1 5 10 15

Glu Glu Glu Asn Ser Asp Glu Asp Glu  
20 25

<210> 30

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 30

Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu  
1 5 10 15

Glu Glu Glu Asn Ser Asp Glu Asp  
20

<210> 31

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<211> 23  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 31  
Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu  
1 5 10 15

Glu Glu Glu Asn Ser Asp Glu  
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<210> 32  
<211> 22  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 32  
Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu  
1 5 10 15

Glu Glu Glu Asn Ser Asp  
20

<210> 33  
<211> 21  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 33  
Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu  
1 5 10 15

Glu Glu Glu Asn Ser  
20

<210> 34  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

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<400> 34  
Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu  
1 5 10 15

Glu Glu Glu Asn  
20

<210> 35  
<211> 19  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 35  
Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu  
1 5 10 15

Glu Glu Glu

<210> 36  
<211> 18  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 36  
Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu  
1 5 10 15

Glu Glu

<210> 37  
<211> 29  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 37  
Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu Glu  
1 5 10 15

Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His Thr  
20 25

- 15 -

<210> 38  
<211> 28  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 38  
Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu Glu  
1 5 10 15

Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His Thr  
20 25

<210> 39  
<211> 27  
<212> PRT  
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<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 39  
Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu Glu Glu  
1 5 10 15

Asn Ser Asp Glu Asp Glu Leu Asp Ser His Thr  
20 25

<210> 40  
<211> 26  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 40  
Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu Glu Glu Asn  
1 5 10 15

Ser Asp Glu Asp Glu Leu Asp Ser His Thr  
20 25

<210> 41  
<211> 25  
<212> PRT  
<213> Artificial Sequence

<220>

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<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 41

Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu Glu Glu Asn Ser  
1 5 10 15

Asp Glu Asp Glu Leu Asp Ser His Thr  
20 25

<210> 42

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 42

His Asp Glu Gln Gln Arg Glu Leu Glu Glu Glu Glu Asn Ser Asp  
1 5 10 15

Glu Asp Glu Leu Asp Ser His Thr  
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<210> 43

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 43

Asp Glu Gln Gln Arg Glu Leu Glu Glu Glu Glu Asn Ser Asp Glu  
1 5 10 15

Asp Glu Leu Asp Ser His Thr  
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<210> 44

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 44

Glu Gln Gln Arg Glu Leu Glu Glu Glu Glu Asn Ser Asp Glu Asp  
1 5 10 15

Glu Leu Asp Ser His Thr  
20



- 17 -

<210> 45  
<211> 21  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 45  
Gln Gln Arg Glu Leu Glu Glu Glu Glu Asn Ser Asp Glu Asp Glu  
1 5 10 15  
Leu Asp Ser His Thr  
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<210> 46  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 46  
Gln Arg Glu Leu Glu Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu  
1 5 10 15  
Asp Ser His Thr  
20

<210> 47  
<211> 19  
<212> PRT  
<213> Artificial Sequence

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<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 47  
Arg Glu Leu Glu Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp  
1 5 10 15  
Ser His Thr

<210> 48  
<211> 18  
<212> PRT  
<213> Artificial Sequence

- 18 -

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 48

Glu Leu Glu Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser  
1 5 10 15

His Thr

<210> 49

<211> 17

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 49

Leu Glu Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His  
1 5 10 15

Thr

<210> 50

<211> 16

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 50

Glu Glu Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His Thr  
1 5 10 15

<210> 51

<211> 34

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 51

Ala Met Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu  
1 5 10 15

Glu Glu Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His Thr  
20 25 30

Met Val

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<210> 52  
<211> 38  
<212> PRT  
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<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 52

Thr Glu Ala Met Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg  
1 5 10 15

Glu Leu Glu Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser  
20 25 30

His Thr Met Val Lys Thr  
35

<210> 53  
<211> 42  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 53

Leu Ile Thr Glu Ala Met Glu Ile Lys Ala Lys Arg His Asp Glu Gln  
1 5 10 15

Gln Arg Glu Leu Glu Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu  
20 25 30

Asp Ser His Thr Met Val Lys Thr Ser Val  
35 40

<210> 54  
<211> 46  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 54

Arg Asp Leu Ile Thr Glu Ala Met Glu Ile Lys Ala Lys Arg His Asp  
1 5 10 15

Glu Gln Gln Arg Glu Leu Glu Glu Glu Glu Asn Ser Asp Glu Asp

- 20 -

20 25 30  
Glu Leu Asp Ser His Thr Met Val Lys Thr Ser Val Gly Glu  
35 40 45

<210> 55  
<211> 50  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 55  
Ile Leu Arg Asp Leu Ile Thr Glu Ala Met Glu Ile Lys Ala Lys Arg  
1 5 10 15

His Asp Glu Gln Gln Arg Glu Leu Glu Glu Glu Glu Asn Ser Asp  
20 25 30

Glu Asp Glu Leu Asp Ser His Thr Met Val Lys Thr Ser Val Gly Glu  
35 40 45

Cys Gly  
50

<210> 56  
<211> 54  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 56  
Val Ser Ile Leu Arg Asp Leu Ile Thr Glu Ala Met Glu Ile Lys Ala  
1 5 10 15

~~Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu Glu Glu Asn~~  
~~20 25 30~~

Ser Asp Glu Asp Glu Leu Asp Ser His Thr Met Val Lys Thr Ser Val  
35 40 45

Gly Glu Cys Gly Thr Met  
50

<210> 57  
<211> 58  
<212> PRT  
<213> Artificial Sequence

- 21 -

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 57

Lys Pro Val Ser Ile Leu Arg Asp Leu Ile Thr Glu Ala Met Glu Ile  
1 5 10 15

Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu Glu  
20 25 30

Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His Thr Met Val Lys Thr  
35 40 45

Ser Val Gly Glu Cys Gly Thr Met Arg Ala  
50 55

<210> 58

<211> 31

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 58

Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu  
1 5 10 15

Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His Thr Met  
20 25 30

<210> 59

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 59

Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu  
1 5 10 15

Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His Thr Met Val  
20 25 30

<210> 60

<211> 33

<212> PRT

- 22 -

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 60

Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu  
1 5 10 15

Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His Thr Met Val  
20 25 30

Lys

<210> 61

<211> 34

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 61

Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu  
1 5 10 15

Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His Thr Met Val  
20 25 30

Lys Thr

<210> 62

<211> 35

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 62

Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu  
1 5 10 15

Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His Thr Met Val  
20 25 30

Lys Thr Ser  
35

<210> 63

<211> 36

<212> PRT

<213> Artificial Sequence

- 23 -

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 63

Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu  
1 5 10 15

Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His Thr Met Val  
20 25 30

Lys Thr Ser Val  
35

<210> 64

<211> 37

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 64

Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu  
1 5 10 15

Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His Thr Met Val  
20 25 30

Lys Thr Ser Val Gly  
35

<210> 65

<211> 38

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 65

Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu  
1 5 10 15

Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His Thr Met Val  
20 25 30

Lys Thr Ser Val Gly Glu  
35

<210> 66

<211> 39

<212> PRT

<213> Artificial Sequence

- 24 -

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 66

Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu  
1 5 10 15

Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His Thr Met Val  
20 25 30

Lys Thr Ser Val Gly Glu Cys  
35

<210> 67

<211> 40

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 67

Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu  
1 5 10 15

Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His Thr Met Val  
20 25 30

Lys Thr Ser Val Gly Glu Cys Gly  
35 40

<210> 68

<211> 41

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 68

Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu  
1 5 10 15

Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His Thr Met Val  
20 25 30

Lys Thr Ser Val Gly Glu Cys Gly Thr  
35 40

<210> 69



- 25 -

<211> 42  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 69  
Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu  
1 5 10 15  
Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His Thr Met Val  
20 25 30  
Lys Thr Ser Val Gly Glu Cys Gly Thr Met  
35 40

<210> 70  
<211> 43  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 70  
Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu  
1 5 10 15  
Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His Thr Met Val  
20 25 30  
Lys Thr Ser Val Gly Glu Cys Gly Thr Met Arg  
35 40

<210> 71  
<211> 44  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 71  
Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu  
1 5 10 15  
Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His Thr Met Val  
20 25 30  
Lys Thr Ser Val Gly Glu Cys Gly Thr Met Arg Ala  
35 40

- 26 -

<210> 72  
<211> 45  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 72  
Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu  
1 5 10 15  
Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His Thr Met Val  
20 25 30  
Lys Thr Ser Val Gly Glu Cys Gly Thr Met Arg Ala Thr  
35 40 45

<210> 73  
<211> 46  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 73  
Glu Ile Lys Ala Lys Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu  
1 5 10 15  
Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His Thr Met Val  
20 25 30  
Lys Thr Ser Val Gly Glu Cys Gly Thr Met Arg Ala Thr Ser  
35 40 45

<210> 74  
<211> 30  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 74  
Glu Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu Asp Ser His Thr Met  
1 5 10 15  
Val Lys Thr Ser Val Gly Glu Cys Gly Thr Met Arg Ala Thr  
20 25 30

<210> 75  
<211> 30

- 27 -

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 75

Gln Arg Glu Leu Glu Glu Glu Glu Asn Ser Asp Glu Asp Glu Leu  
1 5 10 15

Asp Ser His Thr Met Val Lys Thr Ser Val Gly Glu Cys Gly  
20 25 30

<210> 76

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC PEPTIDE

<400> 76

Arg His Asp Glu Gln Gln Arg Glu Leu Glu Glu Glu Glu Asn Ser  
1 5 10 15

Asp Glu Asp Glu Leu Asp Ser His Thr Met Val Lys Thr Ser  
20 25 30